ARGUMENTA OECONOMICA
No 2 (43) 2019
PL ISSN 1233-5835

I. ARTICLES

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ARE INCOMES A KEY DETERMINANT OF THE LEVELS OF HOUSEHOLD SIGHT DEPOSITS DURING A FINANCIAL MARKET DOWNTURN? THE CASE OF THE EUROZONE COUNTRIES

The paper investigates the significance of households' characteristics for the levels of their sight deposits in the eurozone countries – which, according to the European Banking Authority (EBA), are primarily dependent on household incomes. The analysis is based on household-level data and applies regression models. Its main finding is that the effect of annual gross incomes of households was statistically significant in most of the eurozone countries. However, a broader set of household characteristics revealed various mechanisms of the formation of sight deposits. The priority significance of incomes was confirmed only in four member states.

Keywords: sight deposits, determinants, household characteristics
JEL Classifications: JEL: G18, G21, G40
DOI: 10.15611/aoe.2019.2.01

1. INTRODUCTION

The reliance of credit institutions on wholesale funding emerged as a severe problem during the global banking crisis due to its unavailability. Its consequences led to a discussion in the EU on the introduction of common funding rules for these entities. This problem was signalled in the CRD IV package (Directive 2013/36/EU; Regulation (EU) No 575/2013), which assigned to retail deposits a relatively stable nature under idiosyncratic and market stress. The detailed guidelines were discussed in the official documents of the European Banking Authority (EBA 2013a; EBA 2013b) and the Delegated Regulation of the European Commission (Commission Delegated Regulation (EU) 2015/61). However, not all retail deposits are considered as fully stable. In particular, this feature became attributed to sight deposits, due to their transactional nature. According to the EBA (EBA

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2013a, p. 7; EBA 2013b, p. 11), this nature results from the fact that their accounts are regularly credited by salaries and other incomes to make transactions. Moreover, the EBA expects that the institutions classify their deposits on the basis of historical data regarding, among others, depositors' behaviour.

This paper aims to verify the EBA stance. It examines the significance of households' financial well-being in particular incomes and compares it with the significance of the saving aims and socio-demographic characteristics of households for the sums allocated to sight accounts in 15 eurozone countries under the conditions of economic and financial downturn. The aims of saving should be considered due to the historically lowest interest rates, which may blur the roles of sight and saving accounts. In turn, socio-demographic characteristics allow the definition of the profiles of households which are distinguished by relatively high deposits and are principal suppliers of stable funding for credit institutions. Such an enlargement of the set of potential factors serves to verify the priority role of household incomes for the levels of sight deposits.

The paper answers the following research questions: Can the financial well-being of households be considered statistically significant for the levels of their sight deposits in individual countries and an entire group of countries? In regard of its significance, what dimension of wealth – recent incomes or assets accumulated throughout life – is the key determinant? Moreover, which of the components of annual gross incomes are significant determinants of the levels of household sight deposits?

Regarding the countries in which annual gross incomes of households were the most important determinant of the levels of their deposits, the following questions are raised:

1. What is the role of saving aims in shaping the levels of sight deposits?
2. Which socio-demographic characteristics of households are related to the levels of their sight deposits?
3. Are the levels of household incomes a fundamental determinant of the deposit levels from all the determinants recognised?

The paper is organised as follows. Section 2 contains an overview of the literature related to household deposits. Section 3 presents the data and methods of the study. Section 4 discusses the descriptive statistics regarding sight deposits in the eurozone countries and the results of empirical analysis regarding the significance of the financial well-being of a household, its saving aims and socio-demographic characteristics for the level of sight deposits. Section 5 contains the conclusions.

2. RELATED LITERATURE

Retail deposits are outside the mainstream literature, mostly because of their simplicity and limited risk. However, the last financial crisis led to slight changes in this regard due to the new regulations for credit institutions related to the stability of their funding. Despite the limited literature on the nature of retail deposits as well as their determinants, it is still possible to indicate some areas of research where the deposits are discussed.

Selected papers are dedicated to the deposits' availability and their cost for banks during the turbulence in the eurozone. Wahrenburg and Kaffenberger (2015) discuss the unequal interest rates of the deposits during the last banking crisis despite the reorganisation of deposit guarantee schemes. They perceive these cross-country differences as the result of the insufficient supply of the deposits, which was accompanied by the downturn in interbank markets hindering the reallocation of funds within the eurozone. The authors point out the possible solutions for this problem which additionally facilitate the further integration of the financial market of EU countries. They include, among others, the harmonisation of the customer identification process when setting up a bank account, the standardised monitoring of cash transfers between current and savings accounts, and in the case of cross-border deposit flows – the simplification and unification of the taxation system for incomes from deposits. The problem presented in this paper is also signalled by the EBA (2015), who emphasise the importance of a stable deposit base for the further development of lending activities of banks as well as national economies.

Some papers analyse retail deposits as a component of the financial asset portfolios of individuals. Cussen et al. (2012) discuss the importance of socio-demographic characteristics of Irish households, such as declared risk, wealth and age of respondents on their financial assets portfolios. The results are presented against the background of findings for 23 other European countries. The authors conclude that in 2008-2011 the share of deposits and cash tended to increase in most countries. They explain this phenomenon by individuals' preference regarding safeness during the evolving destabilisation. The analysis conducted for individual years showed that increased interest in deposits and cash occurred mostly in 2008. However, the subsequent wave of banking problems in Denmark, Greece, Ireland and Italy in 2011 resulted in a significant reduction of the shares of these items in individuals' portfolios. Brandmeir et al. (2012) studied the global linkages between the financial crisis and households' financial assets portfolios. The

authors demonstrated its negative effects primarily in affluent populations, which directly resulted from the structure of portfolios focused on relatively risky assets. In turn, in countries where household wealth was defined as medium and low, the effect of destabilisation turned out to be marginal due to the dominant position of deposits. The authors explain that the portfolio structure results not only from the households' attitude to risks, but also from the stage of development of the domestic financial markets.

Kochaniak (2017) conducted a study dedicated solely to household deposits. The author examines the determinants of the occurrence of three categories of deposits – guaranteed, of high value, and of very high value – which are presented by the EBA as separate categories due to their various sensitivity to outflows under stress. The main finding of the paper is that the significance of wealth and the socio-demographic features of households for their propensity to possess the deposits was opposite regarding guaranteed and unguaranteed deposits, which leads to two separate profiles of households who declared deposits in the eurozone. For selected member states, the adoption of the single limit within guarantee schemes was assessed as an incentive which may strengthen the deposits' resilience on withdrawals, and thus positively influence the funding stability of credit institutions.

The paper of McQuinn and Woods (2012) relates to the volatility of retail and corporate deposits in Irish banks in the years 2009-2011. The authors find retail deposits as stable, while they find corporate ones as sensitive to outflows, similarly to wholesale funding. The authors do not recognise the significance of the coverage of corporate deposits by guarantee schemes for their volatility. However, banks financial problems may have a negative impact on their ability to raise and maintain the deposits. The results of the study presented by Bologna (2011) indicate the linkages between banks' funding by different types of deposits and their insolvency. The author recognises the tendency of large deposit holders to monitor banks' financial standing and the transfer of funds in cases of increased risk. Similar conclusions are presented regarding the owners of managed accounts, but in their case the outflow could be identified with a particular time lag.

This paper fills the gap in the existing literature regarding household characteristics, such as financial well-being, saving aims and socio-demographic profiles, which determine the levels of sight deposits of the eurozone households. Moreover, it attempts to test the EBA's stance regarding the primary dependence of deposit levels on depositors' incomes and wages. The paper demonstrates not only the similarities between the

countries, but also the statistically significant differences which emerge as particularly relevant in the context of the harmonisation of the EU regulations for credit institutions.

3. THE DATA AND METHODOLOGY

The study is based on household-level data derived from the first wave of the Eurosystem Household Finance and Consumption Survey (HFCS). It contains information regarding 56,225 households who held sight deposits and resided in the following eurozone countries: Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain. This database is a unique source of information about the distribution of household characteristics in individual populations of countries and their entire group. The surveying period was decided on by each national central bank of the eurozone countries. In total, it relates to the years 2008-2011. Thus these statistical data were collected during the financial and economic destabilisation, including the tough time for credit institutions. However, when using the HFCS data for country comparative studies, it is essential to bear in mind the diversity of their institutional and macroeconomic terms (ECB 2013). In this study, attention is focused on households' characteristics relating to their financial situation – the value and type of income and accumulated assets, as well as saving aims, socio-demographic profiles, and the country of residence.

The study adopts the following variables referring to both the household and its reference person:

1. Sight deposits of the household (*D*) – value (in EUR).
2. Total real assets (*TRA*) of the household – the value of the household's real estate, vehicles, valuables etc. (in EUR).
3. Total financial assets without deposits (*TFA*) of the household – the value of mutual fund units, bonds, manager accounts, shares, non-self-employment private business, money owed to households, voluntary pension and whole life insurance, and other assets (in EUR).
4. Annual gross income (*GI*) of the household – the sum of employee income, self-employment income, income from pensions, and regular social transfers (in euros, EUR).
5. The values (in EUR) of individual types of annual gross incomes: from employment (*GIempl*), from self-employment (*GIself*), from pensions (*GIpension*), from regular social transfers (*GIsocial*).

6. Net wealth (*NW*) of the household – total household's assets (*TRA* and *TFA*) minus total outstanding household's liabilities (in EUR).

7. Household members (*H*) – total number of household members (*Hm*), and the total number of members in employment (*He*).

8. Saving aims (*S*) of the household – dummies referring to the following household's saving aims: purchase of own home (*Sh*), other major purchases like other residences, vehicles, and furniture (*Sm*), setting up a private business or financial investments in an existing business (*Sb*), investment in financial assets (*Sf*), provision for unexpected events (*Su*), paying off debt (*Sp*), old-age provision (*So*), travels and holidays (*St*), education and support of children and grandchildren (*Se*), bequest (*Sq*), taking advantage of state subsidies, e.g. a subsidy to building society savings (*Ss*), other (*Sr*).

9. Country of residence of the household (*C*) – dummies referring to Austria (*AT*), Belgium (*BE*), Cyprus (*CY*), Finland (*FI*), France (*FR*), Germany (*DE*), Greece (*GR*), Italy (*IT*), Luxembourg (*LU*), Malta (*MT*), the Netherlands (*NL*), Portugal (*PT*), Slovakia (*SK*), and Slovenia (*SI*). The variable referring to a given country takes the value of 1 if a household resides there. Otherwise it takes the value of 0.

10. Marital status of the respondent (*M*) – dummies referring to the following: single (*Ms*), married (*Mm*), in consensual union (*Mc*), other (*Mo*).

11. Level of education completed by the respondent (*E*) – dummies referring to the following levels: primary or below (*Ep*), lower secondary (*El*), upper secondary (*Eu*), tertiary (*Et*).

12. Labour status of the respondent (*LS*) – dummies referring to: doing regular work for pay or self-employed or working in family business (*Lw*), retiree (*Lr*), unemployed (*Lu*), other (*Lo*).

13. Gender of the respondent (*G*) – a dummy which takes the value of 1 if the respondent is a female. Otherwise, it takes the value of 0.

14. Age of the respondent (*A*) in years.

The complexity of the problem analysed required the study to be conducted in five steps which in turn allowed the results to be gradually detailed. The significance of household characteristics for the levels of sight deposits is estimated on the basis of regression models. The best results in the statistical sense were obtained from the power, exponential and power-exponential models. The main reason for the selection of explanatory variables for the models is their merit, referring to the aim of the study. Formal and statistical criteria are also applied (Dziechciarz 2003; Kufel 2013). The models referring to a group of countries are applied first to

recognise the common determinants of deposit formation for the group of the eurozone countries. Moreover, they allow recognising geographical discrepancy in their regard. These models include sets of independent variables referring to specific characteristics as well as the dummies identifying the country of residence of the respondent. Subsequently, the models for individual countries are applied to recognise the domestic circumstances of the formation of the levels of sight deposits.

Step 1: The significance of the financial well-being of a household for the value of its sight deposits is examined. The financial well-being of a household is described by the value of its:

- annual gross income,
- real assets,
- financial assets,
- net wealth, i.e. the sum of real and financial assets less debt from loans.

On the one hand, this refers to the situation of a household which reflects cash inflows (incomes received over the 12 months before the survey), and on the other, assets purchased and accumulated throughout life, gifts and inheritances obtained, as well as debts owed. The study is conducted for the entire sample of households – model (1) and sub-samples of households residing in individual countries – model (2). They take the form:

$$\ln D_i = \alpha_0 + \alpha_1 \ln GI_i + \alpha_2 \ln TRA_i + \alpha_3 \ln TFA_i + \alpha_4 \ln NW_i + \sum_{k=2}^{15} \beta_k c_{ik} + \varepsilon_i \,, \quad (1)$$

$$\ln D_i = \alpha_0 + \alpha_1 \ln GI_i + \alpha_2 \ln TRA_i + \alpha_3 \ln TFA_i + \alpha_4 \ln NW_i + \varepsilon_i \,, \quad (2)$$

where: $\ln D_i$, $\ln GI_i$, $\ln TRA_i$, $\ln TFA_i$, $\ln NW_i$ – natural logarithms of the variables' values in the i-th household (i = 1, 2, ... n); α_j - parameter of the j-th explanatory variable (j = 1, 2, 3, 4); β_k – parameter of the k-th dummy identifying the country of residence of the household; c_{ik} – a dummy identifying the country of residence, c_{ik}=1 if the i-th household lives in k-th country, otherwise it is 0 (the basis for comparison is Germany), ε_i – random component for i-th household. The parameter estimates of the models are presented in Tables 2 and 3.

Step 2: The levels of individual types of annual gross incomes, i.e. from employment, self-employment, pensions, and regular social transfers are adopted for explaining the level of sight deposits. The study is carried out for the entire set of households from 15 countries – model (3) and households residing in individual countries – model (4). The proposed models are:

$$\ln D_i = \alpha_0 + \alpha_1 GIempl_i + \alpha_2 GIself_i + \alpha_3 GIpension_i + \alpha_4 GIsocial_i + \sum_{k=1}^{9} \beta_k c_{ik} + \varepsilon_i \quad , \tag{3}$$

$$\ln D_i = \alpha_0 + \alpha_1 GIempl_i + \alpha_2 GIself_i + \alpha_3 GIpension_i + \alpha_4 GIsocial_i + \varepsilon_i \, , \tag{4}$$

where: $\ln D_i$, $GIempl_i$, $GIself_i$, $GIpension_i$, $GIsocial_i$ – observed value of a specified variable in the i-th household (i = 1, 2, ... n); the remaining symbols as in the model (1), with the limitation that β_k is the parameter of the k-th dummy identifying a given country of residence of the household from nine countries in the subset for the model (2) – Austria, Cyprus, Finland, France, the Netherlands, Luxembourg, Malta, Germany, and Slovakia, where priority importance is assigned to the annual gross income of a household. The basis for comparison is the subset of the remaining eurozone countries. Parameter estimates of the models are presented in Tables 4 and 5.

Step 3: This step includes a set of independent variables relating to the saving aims of households. However it should be explained that the dataset for Finland, France and Italy, do not contain such information. Thus they are excluded from this part of the study. The target subset consists of 12 countries of the eurozone. The study is conducted for both the entire sub-sample of households as well as for households from individual countries. It was considered important to verify the relationships between the level of deposits and the aims of different time horizons. They are divided into the following:

- aims of a long-term nature, as their implementation typically requires substantial savings such as purchase of own home, other major purchases, setting up a private business or financial investments in an existing business, old-age provision, education and support of children and grandchildren, bequest, taking advantage of state subsidies;
- aims whose time horizon is difficult to define because it depends on the scale of the planned activity such as travel and holidays, investments in financial assets, provision for unexpected events, paying off debts, and other.

Of particular importance is the identification of the linkages between the levels of sight deposits and long-term aims. They may suggest that in the environment of low interest rates which occurred during the surveyed period, the deposits could serve not only to cover household transactions, but also to accumulate their savings. Model (5) for the households residing in 12

countries is proposed, while model (6) is proposed for households residing in individual countries. They take the form:

$$\ln D_i = \alpha_0 + \alpha_1 Sh_i + \alpha_2 Sm_i + \alpha_3 Sb_i + \alpha_4 Sf_i + \alpha_5 Su_i + \alpha_6 Sp_i + \alpha_7 So_i + \alpha_8 St_i + \alpha_9 Se_i + \alpha_{10} Sq_i + \alpha_{11} Ss_i + \alpha_{12} Sr_i + \sum_{k=1}^{12} \beta_k c_{ik} + \varepsilon_i, \quad (5)$$

$$\ln D_i = \alpha_0 + \alpha_1 Sh_i + \alpha_2 Sm_i + \alpha_3 Sb_i + \alpha_4 Sf_i + \alpha_5 Su_i + \alpha_6 Sp_i + \alpha_7 So_i + \alpha_8 St_i + \alpha_9 Se_i + \alpha_{10} Sq_i + \alpha_{11} Ss_i + \alpha_{12} Sr_i + \varepsilon_i, \quad (6)$$

where: *Sh*, *Sm*, *Sb*, *Sf*, *Su*, *Sp*, *So*, *St*, *Se*, *Sq*, *Ss* and *Sr* – dummies referring to 12 different saving purposes. The dummy takes the value of 1 if a household declares a given aim, otherwise – 0. The basis for comparison is a household that does not declare such an aim. The other symbols are as in the previous models. The parameter estimates of the models are presented in Tables 6 and 7.

Step 4: The significance of selected socio-demographic characteristics of a household for the level of its sight deposits is recognized. They refer to marital status, labour market status, level of education completed, gender, and age of the respondent, as well as the number of household members in employment. Due to the lack of data on the Maltese respondents' age, this country was rejected from the part of the study devoted to the entire set of households. Therefore, they resided in 14 eurozone countries. On the other hand, in the study conducted for individual countries, Malta is included with a limited set of potential independent variables by one. The models in Step 4 allow the profiles of households with large amounts on sight accounts to be identified, which may be helpful in recognising the principal providers of stable funding for credit institutions as the EBA states. Model (7) refers to the households of 14 countries, while model (8) refers to households in individual countries. They can be described as:

$$\ln D_i = \alpha_0 + \alpha_1 Hm_i + \alpha_2 He_i + \alpha_3 Ms_i + \alpha_4 Mm_i + \alpha_5 Mc_i + \alpha_6 El_i + \alpha_7 Eu_i + \alpha_8 Et_i + \alpha_9 Lw_i + \alpha_{10} Lr_i + \alpha_{11} Lu_i + \alpha_{12} G_i + \alpha_{13} \ln A_i + \sum_{k=1}^{14} \beta_k c_{ik} + \varepsilon_i, \quad (7)$$

$$\ln D_i = \alpha_0 + \alpha_1 Hm_i + \alpha_2 He_i + \alpha_3 Ms_i + \alpha_4 Mm_i + \alpha_5 Mc_i + \alpha_6 El_i + \alpha_7 Eu_i + \alpha_8 Et_i + \alpha_9 Lw_i + \alpha_{10} Lr_i + \alpha_{11} Lu_i + \alpha_{12} G_i + \alpha_{13} \ln A_i + \varepsilon_i, \quad (8)$$

where: Hm_i, He_i – the value of variables observed in the i-th household (i = 1, 2, ... n); Ms_i, Mm_i, Mc_i, El_i, Eu_i, Et_i, Lw_i, Lr_i, Lu_i, G_i, $\ln A_i$ – dummies referring to the marital status, level of education, and labour status of a respondent. The dummy takes the value of 1 if the respondent declares a given characteristic, otherwise – 0. The basis for comparison for the variables referring to: marital status – other (*Lo*), level of education completed – primary or below (*Ep*), labour status – other (*Lo*); the other symbols as in the previous models. Parameter estimates of the models are presented in Tables 8 and 9.

Step 5: This refers only to countries where annual gross income was primarily related to the level of sight deposits from all the independent variables referring to the financial well-being of a household. In addition to the annual gross income, the model also proposes the independent variables, which were statistically significantly linked to the analysed phenomenon in Steps 3 and 4. Thus they relate to the saving aims and socio-demographic characteristics of households. Due to the lack of information about the saving aims of households in Finland and France, the collection of countries in this step is limited to Austria, Cyprus, Germany, Luxembourg, Malta, the Netherlands, and Slovakia. Due to the cross-country differences regarding the sets of independent variables explaining the levels of sight deposits of households, an individual model is proposed for each country.

The parameter estimates of the proposed models lead to a relatively comprehensive description of the formation of the deposits in individual countries, an assessment of the position of incomes among other independent variables, and demonstrates the diversification of the formation of the deposits in the eurozone countries. Thus, they allow reference to the opinion of the EBA on the transactional nature of the deposits. Models (9) to (15) relate to households residing in Austria (9), Cyprus (10), Germany (11), Luxembourg (12), Malta (13), the Netherlands (14), and Slovakia (15). They take the formula:

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 Sh_i + \alpha_3 So_i + \alpha_4 Se_i + \alpha_5 He_i + \alpha_6 Ms_i + \alpha_7 Mm_i + \alpha_8 Mc_i + \alpha_9 El_i + \alpha_{10} Et_i + \alpha_{11} G_i + \alpha_{12} \ln A_i + \varepsilon_i, \tag{9}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 Sq_i + \alpha_3 Mm_i + \alpha_4 Mc_i + \alpha_5 Et_i + \alpha_6 G_i + \alpha_7 \ln A_i + \varepsilon_i, \tag{10}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 So_i + \alpha_3 Se_i + \alpha_4 Sq_i + \alpha_5 Ss_i + \alpha_6 He_i + \alpha_7 Ms_i + \alpha_8 Mm_i + \alpha_9 El_i + \alpha_{10} Et_i + \alpha_{11} Lu_i + \alpha_{12} G_i + \alpha_{13} \ln A_i + \varepsilon_i, \tag{11}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 So_i + \alpha_3 Sq_i + \alpha_4 Ms_i + \alpha_5 Mm_i + \alpha_6 Eu_i + \alpha_7 Et_i + \alpha_8 Lr_i + \alpha_9 \ln A_i + \varepsilon_i, \tag{12}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 He_i + \alpha_3 Lr_i + \varepsilon_i, \tag{13}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 Ss_i + \alpha_3 Ms_i + \alpha_4 Mm_i + \alpha_5 Eu_i + \alpha_6 \ln A_i + \varepsilon_i, \tag{14}$$

$$\ln D_i = \alpha_0 + \alpha_1 GI_i + \alpha_2 Sm_i + \alpha_3 Sb_i + \alpha_4 So_i + \alpha_5 Sq_i + \alpha_6 He_i + \alpha_7 Ms_i + \alpha_8 Mm_i + \alpha_9 Mc_i + \alpha_{10} El_i + \alpha_{11} Et_i + \alpha_{12} Lu_i + \alpha_{13} \ln A_i + \varepsilon_i, \tag{15}$$

where the symbols are as in previous models. The parameter estimates of the models are presented in Table 10.

The Akaike criterion (*AIC*) and Schwartz-Bayes information criterion (*SBC*) are used to validate the selection of independent variables for models (1) to (15) and to compare the goodness-of-fit of the models to the empirical data. The variance inflation factor (*VIF*) is used to check the of the independent variables, while White's test is used to evaluate model parameters (Kufel 2013). In the case of heteroscedasticity (Kufel 2013), generalised least squares method is used to estimate model parameters, according to the heteroscedasticity consistent covariance matrix (HCCM). It is recognised in all models except for models (2) and (4) for the Netherlands. In their cases, the estimation of parameters is based on the classical least square models (CLS). Verification of the significance of the structural parameters of the models is carried out on the Student's t-distribution. The Doornik-Hansen test (Kufel 2013) is applied to test the distribution of residues. It should be added that the study is based on household-level data. Hence, the degree of explanation of the variation of the independent variable, expressed by the coefficients of determination *R*-squared, is relatively low (lower than for aggregated data). It is noteworthy that the decision of households regarding the level of sight deposit possessed is conditioned by many factors, both internal and external, due to the macroeconomic and institutional heterogeneity of the eurozone countries.

4. RESULTS

In the group of the eurozone countries, the average value of household sight deposits was estimated at EUR 11,082.70, but half of the respondents held sums not higher than EUR 2,700. Moreover, 25% of the households least involved in deposit accumulation declared them up to EUR 905. On the other hand, the same fraction of households most involved are distinguished by deposits not lower than EUR 8,000. The significant diversification of the levels of sight deposits in the analysed group was displayed by the coefficient of variation (C_v) equal to 422%. Like all other characteristics describing the financial well-being of a household, the levels of sight deposits were skewed to the right ($As = 27.51$).

The countries of the eurozone were heterogeneous in term of the mean levels of household sight deposits (Table 1). The lowest one was seen in Portugal (EUR 2,913.67) while the highest was in Finland (EUR 19,466.12). Moreover, the significant diversification of the levels of sight deposits was identified within the individual countries. The coefficient of variation (C_v) exceeded 100% in all the cases. The most considerable differences in this regard occurred in France ($C_v = 667\%$) as well as in Austria, Belgium and Spain ($C_v > 400\%$). When analysing the value of the lowest quartile (Q_1), it should be noted that 25% of households residing in Austria, Malta, Portugal, Slovakia and Slovenia were found with deposits lower than EUR 400. On the other hand, in Finland, Greece, Italy, Luxembourg, and Spain, this limit ranged from EUR 1,000 to EUR 3,000. The values of the top quartile (Q_3), which referred to 25% of households who were the most involved in sight deposits, show that the residents of Cyprus, Finland, Greece, Italy, Luxembourg and Spain, declared sight deposits not lower than EUR 10,000, while in Austria, Portugal, Slovakia and Slovenia this threshold ranged between EUR 2,500 and EUR 3,105. The cross-country differences in the deposit levels can also be analysed on the basis of their median level (*Me*). The lowest median (close to EUR 1,000) was found in Austria, Portugal, Slovakia and Slovenia, while the highest was in Finland, Italy, Luxembourg, and Spain. The right-sided asymmetry in the sight deposit distribution is displayed by *As*. Its highest values were seen in France, Greece and Portugal. It should be noted that sight deposits represent significant assets of the eurozone households and constitute from 13% of their average financial asset portfolios in the Netherlands to 91% in Greece. In seven countries, they form at least half of these portfolios. Hence the studied problem appears as important not only for the credit institutions due to the post-crisis approach to the nature of sight deposits, but also for the eurozone households and their finance.

Table 1

Descriptive statistics of sight deposits in the eurozone countries

Country	Mean (EUR)	Coefficient of variation C_v (%)	Q_1	Median	Q_3	Coefficient of asymmetry A_s	Mean share in financial asset portfolios (%)
AT	3,812.87	442	300	1,000	2,500	14.02	22
BE	6,357.36	520	600	1,500	4,000	17.93	22
CY	14,329.14	270	1,000	3,521	10,000	6.85	39
DE	5,843.47	297	800	2,000	5,000	12.82	21
ES	18,761.52	481	1,500	4,500	12,000	22.28	53
FI	19,466.12	226	1,754	5,941	18,444	8.33	73
FR	7,608.24	667	712	1,675	4,234	25.20	28
GR	9,782.43	338	1,000	3,000	10,000	28.13	91
IT	13,630.37	244	3,000	5,961	12,948	14.32	65
LU	14,308.69	274	1,500	4,066	10,000	7.32	30
MT	4,671.63	196	200	1,498	5,401	5.43	25
NL	3,747.85	249	875	1,897	3,750	13.52	13
PT	2,913.67	275	400	1,000	3,105	30.73	55
SI	2,996.80	187	400	1,000	3,000	3.47	57
SK	3,145.38	212	200	1,000	3,000	5.15	68

The coefficient of variation: $C_v = (s/\bar{x})\times 100\%$, where: s – standard deviation, $\bar{x}$ – arithmetic mean; the coefficient of asymmetry: $As = M_3/s^3$, where: s – standard deviation.

Source: author's own calculations based on the HFCS data.

The study was conducted in Steps 1 to 5 applying the models (1) to (15) to answer the research questions stated in the Introduction.

In Step 1, the results obtained from model (1) indicated that all the considered variables describing the financial well-being of households were statistically significant and positively correlated to the amounts of their sight deposits in the eurozone (Table 2). However, attention should first be paid to the effects of the annual gross incomes and net wealth. In the case of total financial assets without deposits and total real assets, their significance was apparently weaker. If assuming the constancy of the financial well-being of the households, it was possible to indicate countries like Finland and Italy, where respondents had the largest sums in sight accounts in the group (Germany was the basis for comparison). Their deposits were higher on average by 258.3% ($(e^{1.276160}-1)\times 100\%$) and 269.4%, respectively, from the deposits placed in Germany. Also, Cypriots, Greeks, Luxembourgians, Portuguese, Slovaks and the Spaniards were distinguished by the average sums declared. However, this subset of households was not uniform regarding respondents' preferences. The deposits of the Greeks and the

Spaniards were at least 100% higher than the Germans' deposits. In Austria, Belgium, Malta, the Netherlands, and Slovenia, sight deposits were the lowest in the group of the eurozone countries. It should be noted that the deposits held by Maltese and Slovenian households were almost half of those declared in Germany. There was no statistically significant difference regarding the deposits of the French and Germans.

Table 2

Parameter estimates of model (1) of sight deposits (ln*D*) in the group of the eurozone countries (Step 1)

Variable	Coefficient	Std. error	*t*-statistic	*p*-value
Constant	2.185850	0.102909	21.2406	0.00001
gross income (ln*GI*)	0.253420	0.010114	25.0572	0.00001
net wealth (ln*NW*)	0.195137	0.004135	47.1915	0.00001
total real assets (ln*TRA*)	0.008494	0.003229	2.6306	0.00852
total financial assets (ln*TFA*)	0.044723	0.001522	29.3907	0.00001
AT	-0.336907	0.044326	-7.6007	0.00001
BE	-0.310942	0.047001	-6.6157	0.00001
CY	0.384753	0.071247	5.4003	0.00001
ES	0.791072	0.034925	22.6509	0.00001
FI	1.276160	0.032608	39.1366	0.00001
FR	0.015749	0.030352	0.5189	0.60384
GR	0.880499	0.049223	17.8881	0.00001
IT	1.306730	0.032344	40.4012	0.00001
LU	0.258081	0.072442	3.5626	0.00037
MT	-0.604337	0.102021	-5.9236	0.00001
NL	-0.154000	0.053367	-2.8857	0.00391
PT	0.099850	0.037312	2.6761	0.00745
SI	-0.535677	0.123241	-4.3466	0.00001
SK	0.158810	0.046211	3.4366	0.00059

Note: R-squared = 0.33; AIC = 203792; SBC = 203962; std. dev. of residual comp. = 1.48168; F (18, 56206) = 1410.71 ($p < 0.00001$)

Source: author's own calculations based on the HFCS data.

Subsequently, model (2) was run for individual countries. In Austria, Finland, France, Italy, Portugal, Slovakia, and Spain the levels of households' sight deposits were statistically significantly linked to all considered dimensions of financial well-being. In Austria, Finland, France, and Slovakia, the strongest relationship in this regard was assigned to annual gross incomes, while in Italy, Portugal, and Spain it was assigned to net

wealth. In Slovenia, the relevance of any explanatory variable has not been recognised. Regarding the rest of the countries, the significance of selected independent variables was verified. In this subset, the priority importance of annual gross incomes was recognised in Cyprus, Germany, Luxembourg, Malta, and the Netherlands, while in Belgium and Greece it was net wealth. The above results displayed heterogeneous mechanisms of the formation of the levels of sight deposits in the countries analysed. At a national level, the role of the primary determinant was assigned to gross annual incomes or net wealth. On the basis of the above outcomes, the countries were classified into two sub-groups:

1. Austria, Cyprus, Finland, France, Germany, Luxembourg, Malta, the Netherlands, and Slovakia, where the levels of the deposits were predominantly linked to households' annual gross incomes, assuming ceteris paribus. The highest value of the parameter estimate for the incomes was recognised in the model for Austria. It should be noted that in Finland, France, and Malta, the income elasticity of the deposits was relatively high as well.

2. Belgium, Greece, Italy, Portugal, and Spain, where the dominant variable was net wealth, assuming ceteris paribus. In this subset, Greece emerged as the country with the most responsive deposit levels. The relatively important role of the independent variable could be also recognised in Belgium and Italy.

It is worth noting that in some countries, households' investments in real assets could be perceived as a negative stimulant of their sight deposits. This phenomenon was identified in Greece, Italy, Portugal, Slovakia, and Spain. However, it was most visible in Greece and Italy (ceteris paribus). For some eurozone countries like Belgium, Cyprus, Greece, Luxembourg, Malta, the Netherlands, and Slovenia, the significance of total financial assets other than deposits has not been recognised. In the remaining ones, this type of investment had a minor significance for the dependent variable.

The analysis so far allowed the identification of the subset of countries comprised of Austria, Cyprus, Finland, France, Germany, Luxembourg, Malta, the Netherlands, and Slovakia in which the gross annual income of a household has emerged as a principal determinant of the analysed phenomenon. Due to this, it was essential to verify in Step 2 the significance of individual sources of this income, of employment, self-employment, pensions and regular social benefits for the levels of sight deposits held by households. Table 4 shows the results of parameter estimates of model (3). All the independent variables were statistically significant However,

Table 3

Parameter estimates of model (2) of sight deposits (ln*D*) in individual eurozone countries (Step 1)

Country	*Constant*	ln*GI*	ln*NW*	ln*TRA*	ln*TFA*
AT	1.107 *	0.365 ***	0.144 ***	0.028 **	0.027 ***
BE	2.600 ***	0.103 ***	0.326 ***	-0.032	0.005
CY	3.391 ***	0.225 **	0.089 **	0.092 **	0.010
DE	2.571 ***	0.232 ***	0.183 ***	0.018 *	0.027 ***
ES	2.272 ***	0.251 ***	0.289 ***	-0.030 **	0.053 ***
FI	2.437 ***	0.341 ***	0.173 ***	0.027 ***	0.069 ***
FR	1.906 ***	0.307 ***	0.154 ***	0.022 ***	0.053 ***
GR	2.655 ***	0.217 ***	0.389 ***	-0.117 ***	0.023
IT	2.700 ***	0.326 ***	0.349 ***	-0.133 ***	0.015 ***
LU	1.656 *	0.282 ***	0.256 ***	0.003	0.010
MT	1.961	0.315 **	0.155	-0.013	-0.004
NL	4.787 ***	0.129 **	0.081 ***	0.019	0.012
PT	3.110 ***	0.159 ***	0.249 ***	-0.040 ***	0.042 ***
SI	2.963 **	0.101	0.214	0.003	0.047
SK	1.358 **	0.297 ***	0.295 ***	-0.037 **	0.045 ***

Note: Parameter estimates are presented for the variables which entered the model with the significance of: *** for $p<0.01$; ** for $0.01<p<0.05$; * for $0.05<p<0.1$. Parameter estimates without an asterisk refer to the variables for which $p>0.1$. The variables that did not enter the model are marked as "–". The lack of a specific independent variable in a model means that it extends the basis for comparison for a given category of variables.

Source: author's own calculations based on the HFCS data.

positive role in this regard could be assigned to annual incomes from employment, self-employment and pensions. It should be noted that sight deposits were highly sensitive to changes in the level of pensions. The same should be concluded regarding the regular social transfers. However, in their case, the value of the parameter estimate was negative. Almost all the parameter estimates for the dummies identifying the countries of residence of the priority significance of annual gross incomes for the level of sight deposits were negative. This indicates that the levels of sight deposits there were lower than the basis (the remaining countries). If assuming the constancy of household incomes from individual sources in the entire group of countries, the biggest differences in this regard were recognised in Austria and Slovakia. On the other hand, the highest interest in deposit placement was demonstrated by respondents in Finland.

Table 4

Parameter estimates of model (3) of sight deposits (ln*D*) in the group of the eurozone countries (Step 2)

Variable	Coefficient	Std. error	*t*-statistic	*p*-value
Constant	7.602660	0.028005	271.4787	0.00000
employment (*GIempl*)	8.11392e-06	9.43438e-07	8.6004	0.00000
self-employment (*GIself*)	8.65673e-06	6.41175e-07	13.5014	0.00000
pension (*GIpension*)	2.15103e-05	1.26993e-06	16.9382	0.00000
reg. soc. transf. (*GIsocial*)	-2.69530e-05	2.14540e-06	-12.5631	0.00000
AT	-1.258800	0.039348	-31.9919	0.00000
CY	0.103094	0.068938	1.4955	0.13480
DE	-0.725404	0.038221	-18.9793	0.00000
FI	0.530235	0.028374	18.6876	0.00000
FR	-0.537987	0.019021	-28.2843	0.00000
LU	-0.455939	0.088189	-5.1700	0.00000
MT	-1.043140	0.098209	-10.6216	0.00000
NL	-0.764394	0.049651	-15.3952	0.00000
SK	-0.825239	0.042065	-19.6181	0.00000

Note: R-squared = 0.16; AIC=216559; SBC=216684; Std. dev. of residual comp. = 1.65991; F (13, 56211) = 455.17 ($p < 0.00001$)

Source: author's own calculations based on the HFCS data.

The analysis of the linkages between the levels of household sight deposits and different kinds of income in individual countries forming subgroup 1 in Step 1 (Table 5) led to conclusions that the income from employment was statistically significant in all of them. The highest value of

the parameter estimate for this variable appeared in the model for Slovakia, while the lowest in the model for Luxembourg. It should be emphasised that pensions emerged as important for the accumulation of deposits in all the countries. However, their main role in this regard was recognised in Slovakia and Malta. In most of the member states, annual income from self-employment determined the formation of sight deposits. Its primary importance was observed in Slovakia, while the minor in Germany. The significance of the levels of regular social transfers for the analysed problem was recognised only in Finland, France, Germany, Luxembourg, and Slovakia. It should be emphasised that the parameter estimates for this variable were negative. The results so far allowed to make conclusions about the greatest sensitivity of sight deposits held by Slovakian households to the changes in all considered kinds of income.

Table 5

Parameter estimates of model (4) of sight deposits (ln*D*) in individual eurozone countries (Step 2)

Country	***Constant***	***GIempl***	***GIself***	***GIpension***	***GIsocial***
AT	6.418 ***	1.037e-05 ***	1.751e-05 ***	6.433e-06 **	-1.618e-05
CY	7.709 ***	7.671e-06 ***	8.263e-06 ***	1.995e-05 ***	-8.237e-06
DE	7.082 ***	7.072e-06 ***	5.791e-06 ***	1.407e-05 ***	-4.841e-05 ***
FI	7.750 ***	1.244e-05 ***	1.643e-05 ***	3.417e-05 ***	-9.626e-06 ***
FR	7.044 ***	8.375e-06 ***	6.867e-06 ***	2.429e-05 ***	-3.007e-05 ***
LU	7.605 ***	6.343e-06 ***	6.490e-06 ***	9.902e-06 ***	-5.842e-05 ***
MT	6.145 ***	2.014e-05 ***	2.091e-05 *	5.537e-05 ***	1.0802-05
NL	6.892 ***	6.697e-06 ***	1.342e-05 ***	1.563e-05 ***	8.645e-06
SK	6.298 ***	5.146e-05 ***	2.675e-05 ***	7.006e-05 ***	-1.300e-04 **

Note: Parameter estimates are presented for the variables which entered the model with the significance of: *** for $p<0.01$; ** for $0.01<p<0.05$; * for $0.05<p<0.1$. Parameter estimates without an asterisk refer to the variables for which $p> 0.1$. The variables that did not enter the model are marked as "–". The lack of a specific independent variable in a model means that it extends the basis for comparison for a given category of variables.

Source: author's own calculations based on the HFCS data.

According to Step 3, the study was focused on the linkages between the levels of households' sight deposits and saving aims. Finland, France, and Italy had to be excluded due to the lack of necessary data. Parameter estimates of model (5) which refers to the entire group of countries, showed the significance of most of the independent variables relating to the saving aims of households (Table 6). The only exceptions were: "purchase of own home", "taking advantage of state subsidies", and "other". From all the saving aims of a long-time horizon, interest should be focused on "setting up a private business or financial investment in an existing business", "old-age provision", and "bequest". They, therefore, suggest the placement on sight accounts of sums whose character was not expected by the EBA, and therefore they might be more susceptible to outflows under stress.

Table 6

Parameter estimates of model (5) of sight deposits (ln*D*) in the group of the eurozone countries (Step 3)

Variable	Coefficient	Std. error	*t*-statistic	*p*-value
Constant	7.080850	0.038166	185.5290	0.00000
purchase of own home *(Sh)*	-0.024811	0.042821	-0.5794	0.56232
other purchases *(Sm)*	0.164674	0.030929	5.3242	0.00000
private business *(Sb)*	0.452576	0.086513	5.2313	0.00000
financial assets *(Sf)*	0.418024	0.053930	7.7512	0.00000
unexpected events *(Su)*	0.166129	0.024088	6.8968	0.00000
paying-off debts *(Sp)*	-0.250751	0.047103	-5.3235	0.00000
old-age provision *(So)*	0.336123	0.024133	13.9280	0.00027
travel/holidays *(St)*	0.245058	0.027723	8.8394	0.00000
educ/supp of ch/grand *(Se)*	0.186294	0.026958	6.9106	0.00008
bequest *(Sq)*	0.359971	0.039522	9.1081	0.00000
advantage of state sub. *(Ss)*	-0.096515	0.061746	-1.5631	0.11804
other *(Sr)*	0.017470	0.051621	0.3384	0.73504
AT	-0.789587	0.050405	-15.6650	0.00000
BE	-0.277940	0.052970	-5.2471	0.00039
CY	0.748552	0.072636	10.3056	0.00000
ES	1.030940	0.041393	24.9059	0.00000
GR	0.387343	0.054222	7.1437	0.00000
LU	0.538133	0.080138	6.7151	0.00000
MT	-0.840189	0.103752	-8.0980	0.00000
NL	-0.556355	0.069245	-8.0346	0.00000
PT	-0.448622	0.043118	-10.4044	0.00000
SI	-0.383457	0.118749	-3.2291	0.00124
SK	-0.558334	0.050216	-11.1186	0.00000

Note: R-squared = 0.12; AIC=99157.1; SBC=99352.2; std. dev. of residual comp. = 1.75192; F (23, 25014) = 166.92 (p < 0,00001)

Source: author's own calculations based on the HFCS data.

In the case of households that declared other long-term saving aims, such as "other major purchases", "education and support of children or grandchildren", their deposits were on average higher than the deposits of those not declaring them, assuming the constancy of the remaining independent variables. From the aims of an ambiguous time horizon, planned "investments in financial assets" distinguished themselves by positive correlation with the levels of sight deposits. Fewer surpluses in deposits were identified among respondents planning expenditure on "travel and holidays" as well as those saving for "unexpected events". The only negative determinant of the levels of sight deposits in the group of eurozone countries was saving for "paying off debts".

The results from the analysis based on model (6) and conducted for individual countries indicated the diversity of linkages between the levels of sight deposits and the savings aims declared by households (Table 7). The most notable relevance of saving aims for the analysed issue was recognised in Germany, Greece, Portugal, and Spain, where at least 8 out of the 12 discussed aims were statistically significant. In the models, the most frequent were "old-age provision" and "bequest" for which the long-time horizon was attributed. The statistical significance of the other long-term aims, like "setting up private business or financial investments in an existing business", "purchase of own home", "other major purchases", "education and support of children and grandchildren", as well as "taking advantage of state subsidies" has been recognised only in part of the models applied. Therefore, the general use of sight accounts for long-term funds accumulation is not evident in the countries analysed, as well as the evolution of the transactional nature of sight deposits. However, focusing on the most common, statistically significant long-term goals, which are "bequest" and "old-age provision", it should be noted that they acted as a stimulant of the examined phenomenon.

When analysing the significance of saving aims for the levels of sight deposits at the national level, attention should first be paid to Spain, Greece, Germany and Portugal due to the number of statistically significant independent variables. In these countries, most of the targeted saving favoured sight deposit accumulation.

The model for Spain included ten statistically significant independent variables. From all the long-term aims, the most substantial effect should be attributed to "setting up private business or financial investments in an existing business". Also "bequest", "other major purchases", "purchase of own home", "old-age provision", and "education and support of children and

Table 7

Parameter estimates of model (6) of sight deposits (ln*D*) in individual eurozone countries (Step 3)

Variable	*Constant*	Purchase of own home (*Sh*)	Other major purchases (*Sm*)	Private business (*Sb*)	Financial assets (*Sf*)	Unexpected events (*Su*)	Paying-off debts (*Sp*)	Old-age provision (*So*)	Travel/ holidays (*St*)	Educ/ supp of ch/grandch (*Se*)	Bequest (*Sq*)	Advantage of state sub. (*SA_s*)	Other (*Sr*)
AT	6.284 ***	0.256 *	0.219 ***	0.400	0.301	0.110	-0.129	0.195 **	0.244 ***	0.354 ***	0.146	0.195	-0.077
BE	6.831 ***	0.050	0.136	-0.104	0.964 ***	0.092	-0.704 **	0.448 ***	0.164 *	0.146	0.396 ***	-0.297 ***	-0.119
CY	7.936 ***	-0.204	0.347	0.358	0.322	0.103	-0.171	0.141	0.230	0.128	0.428 *	-0.476	-0.037
DE	7.079 ***	-0.137	0.098	0.102	0.749 ***	0.244 ***	-0.098	0.475 ***	-0.164 **	0.171 **	0.792 **	0.981 ***	0.153 *
ES	8.017 ***	0.323 **	0.413 ***	0.888 ***	0.672 ***	0.125 **	0.147	0.313 ***	0.300 ***	0.261 ***	0.453 ***	–	0.301 ***
GR	6.909 ***	-0.023	0.259 *	0.299	0.751 ***	0.557 ***	-0.386 ***	0.677 ***	0.629 ***	0.476 ***	0.056 **	0.582	1.131 ***
LU	7.563 ***	0.319	0.494 ***	-0.390	-0.112	-0.288 *	-0.640 **	0.299 **	-0.062	0.275	0.565 ***	0.378	-0.103
MT	7.050 ***	0.059	-0.153	0.345	-0.122	-0.121	-0.416	0.060	0.078	-0.111	0.143	–	-1.263 *
NL	7.422 ***	0.227	0.017	-0.253	0.085	-0.207	-0.183	0.103	-0.043	0.037	0.080	-0.348 ***	0.105
PT	6.792 ***	-0.279 ***	0.298 **	0.406	0.292	0.043	-0.153 *	0.237 ***	0.594 ***	0.043	0.309 ***	-0.468 **	-0.567 **
SI	6.597 ***	1.042 *	0.154	-0.159	–	0.369	0.060	0.635 **	-0.123	-0.264	0.485	–	-0.371
SK	6.431 ***	0.065	0.193 **	0.772 ***	-0.085	0.130 *	-0.247 **	0.339 ***	0.489 ***	0.101	0.629 ***	-0.226	-0.119

Note: Parameter estimates are presented for the variables which entered the model with the significance of: *** for $p<0.01$; ** for $0.01<p<0.05$; * for $0.05<p<0.1$. Parameter estimates without an asterisk refer to the variables for which $p>0.1$. The variables that did not enter the model are marked as "–". The lack of a specific independent variable in a model means that it extends the basis for comparison for a given category of variables.

Source: author's own calculations based on the HFCS data.

grandchildren" emerged as statistically significant determinants of the discussed problem. From the targets with an indefinite time horizon, "investments in financial assets" were considered as strongly related to the deposit levels.

In Greece, the levels of sight deposits were linked to nine saving aims, of which "paying-off debts" turned out to be a characteristic negatively influencing the analysed phenomenon. Focusing on the long-term savings aims, the importance of "old-age provision" should be emphasised. A significant linkage with the dependent variable was also verified regarding "education or support of children and grandchildren". When referring to the aims of an undetermined time horizon, a strong positive relation to the studied phenomenon should be attributed to saving for "other aims", "investments in financial assets", "travel and holidays", and "unexpected events".

In Germany, households that saved for "taking advantage of state subsidies", "bequest", or "old-age provision" distinguished themselves by relatively higher levels of sight deposits. Regarding the significance of saving aims of an indefinite time horizon, it is worth emphasising "investments in financial assets" were positively correlated with the deposits' levels.

In Portugal, most of the long-term saving aims were statistically significant for the levels of sight deposits, but the only positive linkages were identified regarding "bequest", "old age provision", and "other major purchases". The significant determinants of the analysed problem were selected aims of an unclear time horizon, like "travels and holidays" and "other". There were countries like Cyprus, Malta, the Netherlands and Slovenia, where saving aims were not clearly related to the levels of household sight deposits.

In the models for the remaining countries, attention was drawn to selected statistically significant independent variables distinguished by the highest parameter estimates. These were: "education and support of children and grandchildren" in Austria, "investment in financial assets" in Belgium, "bequest" in Luxembourg, "setting up a private business or financial investments in an existing business" in Slovakia.

According to the assumptions of Step 4, the significance of the socio-demographic characteristics of households for the levels of their deposits was examined. In the study based on model (7) for the group of eurozone countries, Malta was omitted due to lack of information about the age of respondents. As presented in Table 8, among the dummies identifying the

socio-demographic characteristics of a household, the level of sight deposits of the respondent was the most (positively) related to the completion of tertiary education. It should be noted that for the variables referring to education, the parameter estimates increased along with the increase in its level. Statistical significance could also be assigned to the variable identifying respondents on retirement. Moreover, higher amounts of the deposits characterised the households whose respondents were doing regular work, assuming ceteris paribus, in contrast to the households represented by the unemployed.

Table 8

Parameter estimates of model (7) of sight deposits (ln*D*) in the group of the eurozone countries (Step 4)

Variable	Coefficient	Std. error	*t*-statistic	*p*-value
Constant	6.151280	0.0460202	133.6649	0.00000
HH members (*Hm*)	-0.011264	0.00701964	-1.6047	0.10857
HH members in employment (*He*)	3.16031e-07	8.07066e-08	3.9158	0.00009
single (*Ms*)	-0.009273	0.0232131	-0.3995	0.68956
married (*Mm*)	0.555349	0.0202848	27.3776	0.00000
in consensual union (*Mc*)	0.300148	0.0552045	5.4370	0.00000
educ. low secondary (*El*)	0.272144	0.0256481	10.6107	0.00000
educ. upper secondary (*Eu*)	0.378058	0.0214821	17.5987	0.00000
educ. tertiary (*Et*)	0.881051	0.0224016	39.3299	0.00000
reg. work (*Lw*)	0.376378	0.0240513	15.6490	0.00000
unemployed (*Lu*)	-0.171029	0.0374517	-4.5666	0.00000
retired (*Lr*)	0.630110	0.0256888	24.5286	0.00000
AT	-0.474947	0.0473620	-10.0280	0.00000
BE	-0.175848	0.0496080	-3.5447	0.00039
CY	0.611982	0.0732027	8.3601	0.00000
ES	1.059430	0.0380183	27.8664	0.00000
FI	1.287750	0.0354553	36.3204	0.00000
FR	0.212621	0.0330122	6.4407	0.00000
GR	0.626779	0.0514229	12.1887	0.00000
IT	1.460750	0.0349070	41.8468	0.00000
LU	0.717558	0.0757774	9.4693	0.00000
NL	2.349070	0.0732339	32.0763	0.00000
PT	2.345020	0.0666788	35.1689	0.00000
SI	-0.783932	0.1253660	-6.2532	0.00000
SK	-0.341891	0.0480727	-7.3200	0.00000

Note: R-squared = 0.21; AIC=202709; SBC=202931; std. dev. of residual comp = 1.61795; F (24, 53310) = 620.183 (p < 0,00001)

Source: author's own calculations based on the HFCS data.

The results also emphasise the significance of the marital status of the respondent for the level of its deposits. Households of married members, as well as those in consensual union, held relatively higher deposits, assuming the constancy of the remaining variables. A slight positive linkage was identified between the number of household members in employment and the level of considered deposits. When analysing the differentiation of the levels of household deposits resulting from the country of residence, it should be noted that all the dummies were statistically significant. The largest deposits were recognised among Dutch and Portuguese households, assuming ceteris paribus. They were on average nine times higher than the deposits of German households, representing the basis for comparison. A significant difference in this regard was characteristic for the Italians, Finnish and the Spaniards. In turn, Slovenia, Austria, Slovakia and Belgium represent the countries where the levels of household sight deposits were the lowest. It should be noted that the proposed set of potential independent variables for the model (7) included those related to the gender and age of the respondent as well. Due to their collinearity with selected independent variables (tested by *VIF*), they did not enter the model, however this does not mean the lack of their significance for the issue analysed.

Model (8) allowed an examination of the linkages between households' socio-demographic characteristics and the levels of their sight deposits in individual countries (Table 9). The results obtained differ not only in the number of statistically significant independent variables (varying from 2 for Malta to 13 for France) but also in the strength of their relationships with the dependent variable. The most popular features at the national level were the number of household members in employment as well as the respondent's age, tertiary education's completion and marital status. Each of them were positively related to the studied phenomenon. On the other hand, the respondent's characteristics, like gender and unemployed status, were negatively linked to the levels of sight deposits. It should be noted that regarding the remaining independent variables, their role as determinants (positive or negative) was not consistent in the countries surveyed. Thus, it can be assumed that their significance resulted from domestic conditions. The results displayed certain similarities of the models applied to the following pairs of countries: Austria and Germany; Belgium and Spain; France and Italy. However, the strength of relationships between individual independent variables and the dependent variable differed.

Parameter estimates of the models applied for the individual countries allowed the creation of the profiles of households which distinguished

themselves by relatively high levels of sight deposits (Table 9). In Austria, these were in particular households represented by older men with tertiary education completed, obtaining regular incomes, married or living in a consensual union. Similarly, in Belgium, such households were represented mainly by older, well-educated men, in particular retired and married. An important role was assigned to the completion of tertiary education by the respondent. In the case of Cyprus, higher deposits were declared primarily by older respondents. The levels of the deposits in Germany were significantly related to the number of household members in employment, tertiary education completed and the age of the respondents. The significant negative role of the respondent's unemployed status should also be noted. In Spain, a relatively high level of sight deposits was found in households with the higher number of members in employment, represented by older, well-educated male respondents, living alone or married. Finland emerged as the only country in which a larger number of household members was positively correlated with the levels of sight deposits. Additionally, the levels of deposits were determined by the number of working members of households. Households with relatively large deposits were represented by older retired men with tertiary education completed and married or living alone.

Due to the significance of all the proposed independent variables, the model for France provided the most detailed profile of a household that possessed relatively large sight deposits. However, it should be emphasised that the priority feature was the tertiary education of the respondent. The positive effects of such features as age, retired status, living in a consensual union or being married, have also been recognised, as well as the number of household members in employment. From the variables which entered the model for Greece, the following characteristics emerged as stimulants of the level of sight deposits: tertiary education, age and marital status of the respondent. The number of working people should also be considered as an important determinant. In Italy, households of older, well-educated male respondents, married or living alone, were characterized by relatively high levels of deposits. In addition, in this country, the number of members in employment was recognised as a positive determinant. The model describing the formation of the deposits in Luxembourg differs from the models for the rest of the countries. Only three variables were statistically significantly linked to the deposit levels. These were the following characteristics of the respondent – tertiary education completed, retired status, and the number of household members in employment. The results obtained for Malta did not allow for describing the precise profile of a household with relatively large

Table 9. Parameter estimates of model (8) of sight deposits (ln*D*) in individual eurozone countries (Step 4)

Variable	*Constant*	HH members (*Hm*)	HH memb. in empl (*He*)	single (*Ms*)	married (*Mm*)	consens. union (*Mc*)	educ. low secondary (*ED_l*)	educ. upper secondary (*ED_u*)	educ. tertiary (*ED_t*)	regular work (*LS_w*)	retired (*LS_r*)	unemployed (*LS_u*)	gender (woman) (*G*)	age (*ln A*)
AT	2.803 ***	0.063	0.186 **	0.248 **	0.424 ***	1.001 ***	-0.651 ***	–	0.751 ***	-0.020	-0.244	-0.712 **	-0.199 ***	0.930 ***
BE	2.813 ***	-0.124 ***	0.267 ***	0.341 **	0.459 ***	0.396 **	0.426 **	0.868 ***	1.174 ***	0.197	0.606 ***	-0.731 ***	-0.240 ***	0.784 ***
CY	2.430 *	-0.017	0.086	0.299	0.484 **	1,121 **	-0.039	0.258	0.650 **	0.498	0.114	-0.045	-0.293 *	1.177 ***
DE	2.679 ***	0.022	0.301 ***	0.228 *	0.194 **	0.710	-0.487 ***	–	0.529 ***	0.118	0.215	-1.326 ***	-0.198 ***	1.035 ***
ES	0.890 *	-0.076 ***	0.325 ***	0.342 ***	0.371 ***	0.089	0.453 ***	0.788 ***	1.363 ***	-0.099	-0.050	-0.530 ***	-0.372 ***	1.630 ***
FI	2.626 ***	0.051 ***	0.617 ***	0.450 ***	0.650 ***	–	0.093 **	–	0.436 ***	-0.571 ***	0.234 ***	-0.564 ***	-0.059 *	1.261 ***
FR	1.430 ***	-0.033 ***	0.375 ***	0.138 ***	0.299 ***	0.410 ***	0.689 ***	0.638 ***	1.306 ***	-0.141 **	0.278 ***	-0.417 ***	-0.260 ***	1.267 ***
GR	1.348 *	-0.092 *	0.252 ***	0.165	0.512 ***	-0.055	0.596 ***	0.992 ***	1.338 ***	-0.123	0.074	-0.184	-0.105	1.423 ***
IT	4.916 ***	-0.077 ***	0.228 ***	0.230 ***	0.263 ***	–	0.295 ***	0.534 ***	0.988 ***	-0.213 ***	0.091	-0.485 ***	-0.107 ***	0.817 ***
LU	4.000 ***	-0.060	0.570 ***	0.264	0.440 *	–	0.400	0.542 **	1.450 ***	0.073	1.124 ***	-0.765	-0.119	0.562 *
MT	5.898 ***	0.123	0.326 **	-0.347	-0.132	–	0.064	-0.392	-0.026	-0.043	0.781 **	0.179	0.386	–
NL	4.607 ***	-0.089	0.067	0.435 ***	1.230 **	-0.629	0.104	0.477 ***	-0.039	0.482	-0.081	-0.113	–	0.548 ***
PT	1.789 **	-0.046	0.225 ***	0.039	–	-0.206 *	0.256 *	1.022 ***	0.127	-0.035	-0.355 ***	-0.051	–	0.937 ***
SI	1.906	0.079	0.276	1.023 *	0.302	0.866 *	-0.192	1.320 **	1.453 **	0.516	0.524	-0.673	0.183	0.562
SK	1.803 ***	-0.067	0.339 ***	0.311 **	0.233 **	-1.795 **	-0.104	–	0.643 ***	0.018	-0.070	-0.384 *	-0.015	1.208 ***

Note: Parameter estimates are presented for the variables which entered the model with the significance of: *** for $p<0.01$; ** for $0.01<p<0.05$; * for $0.05<p<0.1$. Parameter estimates without an asterisk refer to the variables for which $p>0.1$. The variables that did not enter the model are marked as "–". The lack of a specific independent variable in a model means that it extends the basis for comparison for a given category of variables.

Source: author's own calculations based on the HFCS data.

sight deposits, as only two of the proposed independent variables were statistically significant. These were the number of household members in employment and retired status of the respondent.

The model for the Netherlands allowed verifying the positive role of respondents' characteristics such as upper secondary education completed, age, and marital status. Portugal was the only country in which the fact of being a pensioner was negatively related to the level of the deposits. Moreover, the statistical significance of the respondent's tertiary education was not recognised. Instead of this, upper secondary education emerged as a significant, positive feature. The same can be concluded about the age of the respondent. The model for Slovenia did not provide the required profile of a household. The only relationship (positive) was found between at least upper secondary level of education completed by the respondent and the deposits' levels. In Slovakia, higher sight deposits were recognised among households with the higher number of members in employment. A positive role could also be assigned to selected characteristics of the respondent, like age, tertiary education completed and married or single status.

In Steps 1 to 4, the application of models (2), (4), (6) and (8) allowed to test for the statistical significance of the financial situation, selected savings aims and socio-demographic characteristics of a household for the level of its sight deposits. Moreover, it revealed the heterogeneity of the eurozone countries regarding the analysed phenomenon. For that reason, comprehensive models were proposed to explain the formation of the deposits at domestic level. Due to the EBA's stance regarding the transactional nature of retail sight deposits and the impact of depositors' incomes on the sums held, they allowed an assessment of the combined effect of household annual gross income and all statistically significant variables from models (6) and (8) on the dependent variable. Step 5 refers only to those countries where, according to the results of Step 3, the priority impact on sight deposits was assigned to annual gross income from all the variables describing the financial well-being of households. Therefore the models were applied to the following countries: Austria (9), Cyprus (10), Germany (11), Luxembourg (12), Malta (13), the Netherlands (14), and Slovakia (15).

The evaluations of the structural parameters of these models were in a logical relation to the results from the previous steps regarding the character (positive or negative) of the determinants (Table 10). For that reason, their interpretation was abandoned, and attention was focused on parameter estimates for standardised variables (b_j). They allowed ranking the independent variables according to their explanation of variation of the

deposits. The greater b_j regarding its absolute value, the greater the importance of the j-th independent variable regarding its explanation of deposit variation (Podolec 2014).

Table 10

Parameter estimates of models (9) to (15) of sight deposits (ln*D*) in individual eurozone countries (Step 5)

Variable	AT	CY	DE	LU	MT	NL	SK
1	2	3	4	5	6	7	8
Constant	-0.17407	1.88100	-0.01965	2.41900	3.78929	5.22063 ***	0.53485
ln*GI*	0.36138 0.1845 ***	0.30607 0.1687 ***	0.35512 0.2111 ***	0.34092 0.1775 ***	0.25338	0.19761 0.3285 ***	0.25402 0.1152 ***
purchase of own home (*Sh*)	0.25755 0.0447 **	[1]	[1]	[1]	[1]	[1]	[1]
other major purchases (*Sm*)	0.11898	[1]	[1]	0.39937 0.0777 ***	[1]	[1]	0.28343 0.0722 ***
old-age provision (*So*)	0.20444 0.0587 ***	[1]	0.10124 0.0275 *	0.36161 0.0792 **	[1]	[1]	0.33532 0.1001 ***
setting up a private business or fin. invest. in an exist. business (*Sb*)	[1]	[1]	[1]	[1]	[1]	[1]	0.64073 0.0768 ***
bequest (*Sq*)	[1]	0.41307 0.0652 *	0.75856 0.0372 ***	0.22057	[1]	[1]	0.50108 0.1117 ***
education and support of children and grandchildren (*Se*)	0.28683 0.0716 ***	[1]	-0.00050	[1]	[1]	[1]	[1]
taking advantage of state subsidies (*Ss*)	[1]	[1]	0.60224 0.0412 **	[1]	[1]	0.11104	[1]
number of members in employment (*He*)	0.10228 0.0575 *	[1]	0.13391 0.0709 ***	[1]	0.26067 0.1133 **	[1]	0.18585 0.0983 ***
single (*Ms*)	0.28496 0.1057 **	[1]	0.21863 0.0450 *	0.22183	[1]	0.19711 0.0302 *	0.23498 0.0625 *
married (*Mm*)	0.35048 0.1032 ***	0.15194	0.08446	0.36268 0.0804 *	[1]	0.74126	0.03770

Table 10, cont.

1	2	3	4	5	6	7	8
consensual union (*Mc*)	0.83898 0.0790 ***	0.73916 0.0381 *	[1]	[1]	[1]	[1]	-1.77699 -0.0802 ***
lower secondary education (*El*)	-0.50294 -0.1132 ***	[1]	-0.34376 -0.0509 ***	[1]	[1]	[1]	[1]
upper secondary education (*Eu*)	[1]	[1]	[1]	0.36570 0.0791 *	[1]	0.44801 0.1265 ***	[1]
tertiary education (*Et*)	0.57178 0.1123 ***	0.37710 0.1014 **	0.37044 0.1008 ***	1.11053 0.2436 ***	[1]	[1]	0.56793 0.1409 ***
retired (*Lr*)	[1]	[1]	[1]	0.76651 0.1503 ***	0.59366 0.1145 **	[1]	[1]
unemployed (*Lu*)	-0.51001 -0.0554 **	[1]	-1.31481 -0.1425 ***	[1]	[1]	[1]	-0.29678 -0.0376 *
gender (*G*)	0.15773 -0.0462 **	-0.35601 -0.0911 **	-0.16487 -0.0455 ***	[1]	[1]	[1]	[1]
age (ln*A*)	0.70876 0.1516 ***	0.72447 0.1130 ***	0.86383 0.1630 ***	0.13962	[1]	0.19918 0.0604 *	0.88184 0.1758 ***

Note: The first line – structural parameter estimates; the second line – parameter estimates for standardised variables which are calculated according to the formula: $b_j = a_j(s_j/s_y)$ where a_j – evaluation of the parameter α_j, s_j – standard deviation of the j-th variable, s_y – standard deviation of the explanatory variable.; "[1]"– variable not considered in the model; p-value: *** for p<0.01; ** for 0.01<p<0.05; * for 0.05<p<0.1. Parameter estimates without an asterisk refer to variables for which p>0.1.

Source: author's own calculations based on the HFCS data.

The results for Austria, Cyprus, Germany, and the Netherlands, indicated that from all the variables which entered the models, annual gross income was of priority importance. Thus the results were in line with the EBA stance regarding the nature of sight deposits. However, it should be noted that selected other variables were recognised as significant for the discussed phenomenon. In Austria, Cyprus and Germany, these were the age and tertiary education of the respondent (positive role). Also, in Austria, the marital status (married or single), as well as the lower secondary education of the respondent were indicated. In Germany, unemployed status emerged as a crucial negative determinant. In the Netherlands, the importance of upper secondary education of the respondent for the level of household's sight deposits was emphasised.

It should be noted that in Luxembourg, Malta, and Slovakia selected independent variables demonstrated a stronger relation to the levels of sight deposits than the annual gross income of the household. In Luxembourg, priority importance should be assigned to tertiary education of the respondent. However, it should be emphasised that in this country income was among the statistically significant variables along with the respondent's retired status. All these features played a positive role in the accumulation of sight deposits. Regarding Malta, attention should be drawn to two household characteristics – the number of members in employment and the respondent's retired status. In Slovakia, the level of deposits was the most strongly related to the respondent's age, followed by the respondent's education level and annual gross income. The aims of saving – especially for bequest and old-age provision – were found significant. In this country, the strength of linkages between the levels of sight deposits and long-term saving aims as well as annual gross incomes was similar. This suggests that Slovakian households might keep the sums on sight accounts not only for transactional reasons but also for other purposes, which might make them more volatile.

CONCLUSIONS

The study refers to the EBA stance regarding the nature of household sight deposits, in particular to the importance of depositors' incomes for their specific levels.

For the set of the eurozone countries and the individual countries (except for Slovenia), the results revealed the existence of links between the levels of households' sight deposits and their financial well-being. In this group of countries, annual gross incomes emerged as the primary determinant of the analysed phenomenon from all the considered variables. Regarding the individual countries, their dominant role could be recognised only in Austria, Cyprus, Finland, France, Germany, Luxembourg, Malta, the Netherlands, and Slovakia, assuming the constancy of the remaining variables. In the rest of them, except for Slovenia, net wealth was recognised as a feature of crucial importance.

All components of annual gross incomes were significantly linked to the levels of deposits in the eurozone. A positive relation was attributed most of all to incomes from pensions, but also from self-employment and employment. A significantly lower level of deposits was found among households that benefited from regular social transfers. Assuming the

constancy of both levels and structure of the incomes, the most interested in the accumulation of sight deposits were Finnish households, while the least were Austrian. It should be emphasised that the models for most of the individual countries displayed strong links between the levels of deposits and pensions and weaker links between the levels of deposits and incomes from employment and self-employment.

The results of the study carried out regarding the group of countries indicated the positive role of most of the long-term savings aims for the formation of sight deposits, including setting up a private business or financial investment in an existing business, bequest, and old-age provision. They suggested the possible allocation on sight accounts of sums for non-transactional purposes, thus more volatile under stress. However, not only did the saving aims relate to the dependent variable, but so too did the domestic conditions. If assuming the constancy of households' attitude to the targeted saving, the greatest interest in sight deposit possession was recognised in Spain, while the smallest was observed in Austria and Malta. On the other hand, the study carried out regarding individual countries showed a different significance of aims for the levels of deposits. However, it should be noted that they were mainly linked to the sums placed on sight accounts in Greece and Spain. The statistical significance of long-term saving aims was recognised in most of the individual models. Portugal and Spain distinguished themselves regarding their vast number. The most commonly declared were old-age provision and bequest.

The study of the links between the socio-demographic characteristics of households and the levels of their sight deposits was aimed at identifying household profiles distinguished by the relatively large funds allocated. In this group of countries, particular attention should be paid to the positive role of having tertiary education, the retirement status and marital status of the respondent. The number of working people in the household was also a significant determinant. Compared to respondents residing in Germany, households in Finland, Italy, the Netherlands, Portugal, and Spain declared relatively large sight deposits, assuming the constancy of socio-demographic characteristics. On the other hand, the study carried out regarding individual countries led to different profiles of households with relatively high levels of these deposits. However, it was possible to recognise the features most often positively linked to analysed deposits, like the respondent's age, tertiary education, and marital status. Regarding the entire household, this was the number of members in employment. In selected countries, such as Cyprus or Malta, the significance of the socio-demographic profiles of households for the studied problem should be assessed as marginal.

In our study focused on the combined statistical significance of the variables related to annual gross incomes, saving aims and socio-demographic characteristics of households, attention was paid to these countries where, according to the results from Step 1, households' annual gross incomes had a priority importance for the levels of sight deposits. Thus, it referred to Austria, Cyprus, Germany, Luxembourg, the Netherlands, Malta, and Slovakia. The results for Austria, Cyprus, Germany and the Netherlands allowed to maintain the original conclusions. However, in Luxembourg, Malta and Slovakia, key importance for the studied phenomenon was attributed to the selected socio-demographic characteristics of households. These were tertiary education completed by respondents in Luxembourg and the age of respondents in Slovakia. In Malta, the statistical significance of gross annual incomes was not observed, and the following independent variables should be considered important: the number of members in employment and the respondent's status as retired from the labour market.

In conclusion, the links between annual gross incomes of households and the levels of their sight deposits were statistically significant in most of the eurozone countries. However, considering a broader set of household characteristics, the mechanism of the formation of these deposits was not the same. The priority importance of incomes was recognised merely in four member states. Thus, only in their case were the results in line with the EBA's stance discussed in this paper.

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Received: November 2017, revised: March 2018

Acknowledgements: *The paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/11/D/HS4/04056).*